BETTER FRUIT

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Special Features

Woodrow Wilson's Message to the American People

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Apples and Other Fruits in Argentine Republic

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The Commercial Apple Crop of the United States

BETTER FRUIT PUBLISHING COMPANY, PUBLISHERS, HOOD RIVER, OREGON

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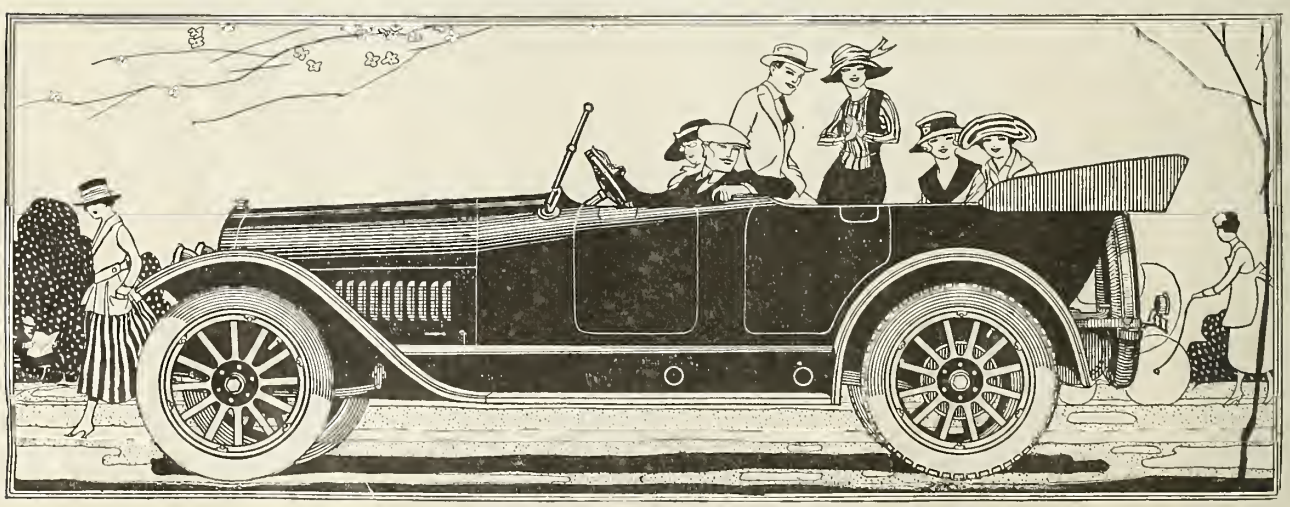

BETTER FRUIT

AN ILLUSTRATED MAGAZINE PUBLISHED MONTHLY IN THE INTEREST OF MODERN, PROGRESSIVE FRUIT GROWING AND MARKETING

The White House
Washington

My Fellow Countrymen:

The entrance of our own beloved country into the grim and terrible war for democracy and human rights which has shaken the world creates so many problems of national life and action which call for immediate consideration and settlement that I hope you will permit me to address to you a few words of earnest counsel and appeal with regard to them.

We are rapidly putting our navy upon an effective war footing and are about to create and equip a great army, but these are the simplest parts of the great task to which we have addressed ourselves. There is not a single selfish element, so far as I can see, in the cause we are fighting for. We are fighting for what we believe and wish to be the rights of mankind and for the future peace and security of the world. To do this great thing worthily and successfully we must devote ourselves to the service without regard to profit or material advantage and with an energy and intelligence that will rise to the level of the enterprise itself. We must realize to the full how great the task is and how many things, how many kinds and elements of capacity and service and self-sacrifice, it involves.

These, then, are the things we must do, and do well, besides fighting,—the things without which mere fighting would be fruitless:

We must supply abundant food for ourselves and for our armies and our seamen not only, but also for a large part of the nations with whom we have now made common cause, in whose support and by whose sides we shall be fighting.

We must supply ships by the hundreds out of our shipyards to carry to the other side of the sea, submarines or no submarines, what will every day be needed there, and abundant materials out of our fields and our mines and our factories with which not only to clothe and equip our own forces on land and sea, but also to clothe and support our people for whom the gallant fellows under arms can no longer work, to help clothe and equip the armies with which we are co-operating in Europe, and to keep the looms and manufactories there in raw material; coal to keep the fires going in ships at sea and in the furnaces of hundreds of factories across the sea; steel out of which to make arms and ammunition both here and there; rails for worn-out railways back of the fighting fronts; locomotives and rolling stock to take the place of those every day going to pieces; mules, horses, cattle for labor and for military service; everything with which the people of England and France and Italy and Russia have usually supplied themselves but cannot now afford the men, the materials, or the machinery to make.

It is evident to every thinking man that our industries, on the farms, in the shipyards, in the mines, in the factories, must be made more prolific and more efficient than ever and that they must be more economically managed and better adapted to the particular requirements of our task than they have been; and what I want to say is that the men and the women who devote their thought and their energy to these things will be serving the country and conducting the fight for peace and freedom just as truly and just as effectively as the men on the battlefield or in the trenches. The industrial forces of the country, men and women alike, will be a great national, a great international, Service Army,—a notable and honored host engaged in the service of the nation and the world, the efficient friends and saviors of free men everywhere. Thousands, nay, hundreds of thousands, of men otherwise liable to military service will of right and of necessity be excused from that service and assigned to the fundamental, sustaining work of the fields and factories and mines, and they will be as much part of the great patriotic forces of the nation as the men under fire.

I take the liberty, therefore, of addressing this word to the farmers of the country and to all who work on the farms: The supreme need of our own nation and of the nations with which we are co-operating is an abundance of supplies, and especially of foodstuffs. The importance of an adequate food supply, especially for the present year, is superlative. Without abundant food, alike for the armies and the peoples now at war, the whole great enterprise upon which we have embarked will break down and fail. The world's food reserves are low. Not only during the present emergency but for some time after peace shall have come both our own people and a large proportion of the people of Europe must rely upon the harvests in America. Upon the farmers of this country, therefore, in large measure, rests the fate of the war and the fate of the nations. May the nation not count upon them to omit no step that will increase the production of their land or that will bring about the most effectual co-operation in the sale and distribution of their products? The time is short. It is of the most imperative importance that everything possible be done and done immediately to make sure of large harvests. I call upon young men and old alike and upon the able-bodied boys of the land to accept and act upon this duty,—to turn in hosts to the farms and make certain that no pains and no labor is lacking in this great matter.

I particularly appeal to the farmers of the South to plant abundant foodstuffs as well as cotton. They can show their patriotism in no better or more convincing way than by resisting the great temptation of the present price of cotton and helping, helping upon a great scale, to feed the nation and the peoples everywhere who are fighting for their liberties and for our own. The variety of their crops will be the visible measure of their comprehension of their national duty.

The government of the United States and the governments of the several states stand ready to co-operate. They will do everything possible to assist farmers in securing an adequate supply of seed, an adequate force of laborers when they are most needed, at harvest time, and the means of expediting shipments of fertilizers and farm machinery, as well as of the crops themselves when harvested. The course of trade shall be as unhampered as it is possible to make it and there shall be no unwarranted manipulation of the nation's food supply by those who handle it on its way to the consumer. This is our opportunity to demonstrate the efficiency of a great democracy and we shall not fall short of it!

This let me say to the middlemen of every sort, whether they are handling our foodstuffs or our raw materials of manufacture or the products of our mills and factories: The eyes of the country will be especially upon you. This is your opportunity for signal service, efficient and disinterested. The country expects you, as it expects all others, to forego unusual profits, to organize and expedite shipments of supplies of every kind, but especially of food, with an eye to the service you are rendering and in the spirit of those who enlist in the ranks, for their people, not for themselves. I shall confidently expect you to deserve and win the confidence of people of every sort and station.

To the men who run the railways of the country, whether they be managers or operative employes, let me say that the railways are the arteries of the nation's life and that upon them rest the immense responsibility of seeing to it that those arteries suffer no obstruction of any kind, no inefficiency or slackened power. To the merchant let me suggest the motto, "Small profits and quick service"; and to the shipbuilder the thought that the life of the war depends upon him. The food and the war supplies must be carried across the seas no matter how many ships are sent to the bottom. The places of those that go down must be supplied and supplied at once. To the miner let me say that he stands where the farmer does: the work of the world waits on him. If he slackens or fails, armies and statesmen are helpless. He also is enlisted in the great Service Army. The manufacturer does not need to be told, I hope, that the nation looks to him to speed and perfect every process; and I want only to remind his employes that their service is absolutely indispensable and is counted on by every man who loves the country and its liberties.

Let me suggest, also, that everyone who creates or cultivates a garden helps, and helps greatly, to solve the problem of the feeding of the nations; and that every housewife who practices strict economy puts herself in the ranks of those who serve the nation. This is the time for America to correct her unpardonable fault of wastefulness and extravagance. Let every man and every woman assume the duty of careful, provident use and expenditure as a public duty, as a dictate of patriotism which no one can now expect ever to be excused or forgiven for ignoring.

In the hope that this statement of the needs of the nation and of the world in this hour of supreme crisis may stimulate those to whom it comes and to remind all who need reminder of the solemn duties of a time such as the world has never seen before, I beg that all editors and publishers everywhere will give as prominent publication and as wide circulation as possible to this appeal. I venture to suggest, also, to all advertising agencies that they would perhaps render a very substantial and timely service to the country if they would give it widespread repetition. And I hope that clergymen will not think the theme of it an unworthy or inappropriate subject of comment and homily from their pulpits.

The supreme test of the nation has come. We must all speak, act and serve together!

WOODROW WILSON.

The Commercial Apple Crop of the United States

By J. Clifford Folger, Assistant Fruit Crop Specialist, Bureau of Crop Estimates, Washington, D. C.

THE growing importance of the commercial fruit industry in the United States, the development of highly-specialized districts devoted to the production of fruit crops, and the distribution of these crops into extended markets, all emphasize the need for a more careful study of the so-called commercial production, with a view to a more complete forecast of the probable quantities of different fruits which will be placed on the market in any given year.

Commercial fruitgrowers are interested in knowing the probable production of marketable fruit, in order that they may dispose of their own crops to the best advantage. Buyers are no less interested in reliable forecasts in order that they may approximate more closely what the market will permit them to pay. Misinformation supplied from biased sources cannot prove profitable to either. For example, in a year when the commercial crop is underestimated, buyers might pay more than the market justified, but as a result in the following year they would quite naturally be over-cautious, their margins increasing or decreasing with the risk involved. In other words, reliable forecasts on commercial fruit production will tend to limit speculation and to stabilize the industry.

Many growers are inclined to place the commercial production paramount and discount the remainder of the crop. However, the total agricultural production is of general interest and must of necessity be the basis for all fruit estimates. In considering the apple crop, and this is the most important fruit crop from a commercial standpoint, we find that in the total agricultural production, there are certain well-defined lines of cleavage. The first line of demarkation separates the apples actually sold by the farmer from those consumed or left on the farm. In the apples sold there is a further line of distinction between those which are to go for fresh fruit consumption and those which are to be used for drying or in the manufacture of cider, vinegar or other by-products. In reality, then, it is the part of the commercial apple crop which goes into commercial channels for consumption as fresh fruit that so vitally interests the apple growers. This portion of the apple crop might be divided further into that part which is placed on the market in standard packages, such as barrels or boxes, and that part which is marketed in bulk or otherwise.

Specifically, forecasts will be of greater value to the individual as they succeed in more closely analyzing the total agricultural production along certain lines of natural cleavage, these forecasts limited, of course, by accuracy and practical difficulties of obtaining them. Estimates to include the probable production of the different leading varieties of apples in any state, or better, in any given district, would furnish the grower of any particular variety of apples more detailed information of the crop prospects in certain specific competing districts.

Recognizing the great importance which the fruitgrowers attach to a forecast of the commercial fruit crop as outlined above, and realizing the benefits to be derived from a more detailed analysis of the total agricultural production, the Bureau of Crop Estimates in the United States Department of Agriculture has already taken important steps in this direction in past reports, and now proposes to go further in its collection and dissemination of fruit-crop estimates. It is manifest, however, that hastily constructed or imperfect plans could result only in failure, and that only with the cooperation of fruitgrowers, dealers, and those interested in the fruit industry generally can the best results be obtained. An idea of the importance of the undertaking may be had from the fact that the total annual production of fruits is valued at more than $300,000,000. Of this amount the apple crop contributes more than any other single crop. For this reason the Bureau of Crop Estimates will confine its efforts at first to perfecting a system for estimating the apple crop. Later, attention is to be directed to improving the present estimates of other fruits.

A brief consideration of some of the characteristics of the apple industry as a whole is important in its bearing upon crop estimates. In specialized areas such as those in the Pacific Northwest a very high percentage of the total production is commercial, while in other sections having a large agricultural production a very small percentage of the crop is sent into commercial channels in an average year. Yet unusually light or unusually heavy crops in parts of the country may cause such districts to direct a very appreciable percentage of their production into commercial channels. Important changes in total production may be caused by young orchards coming into bearing, or by a decrease in the number of bearing trees. In some districts summer varieties are an important part of the commercial crop, in others they are negligible. There is also a wide fluctuation in the yield of fruit trees one year with another. The biennial habit of bearing of many varieties of apples, frost damage and other influences explain the irregularity in local yield which is more pronounced than in many other crops.

Thus many difficulties attend the work of perfecting a method of statistical inquiry regarding the commercial apple crop. While it is not within the province of this article to discuss methods of statistical inquiry, still the general methods of securing crop forecasts are of interest to many. At the outset an actual enumeration of the number of barrels of apples being produced on all of the apple trees in the United States in any given year would be both impractical and unreliable, and yet the approximate size of the crop in barrels may be determined by other methods. These methods may be characterized as based upon comparison and a comparison for any given area can best be drawn by the growers themselves, or by those who have been in intimate touch with the crops of this area over a period of several years. The best judgment of a large number of those who are in closest touch with crop conditions may be interpreted into definite figures by a comparison with accurate estimates of previous years. To this end the Crop Estimates Bureau for many years has used lists of several thousand apple growers and others closely allied with the apple industry who are called upon from time to time to furnish reliable information on representative areas in all parts of the country. These lists, of course, are contsantly changing and being augmented, and the inauguration of the extended apple estimating service will necessitate a liberal extension of an already large list.

For the total agricultural production of apples as well as all other crops, a complete system of forecasting has been perfected which includes reports from every township of agriculutral importance in the United States. In the past the estimates for the agricultural production of apples have been secured from four separate and distinct sources, each more or less complete and acting as a check upon the other three. They are as follows: (1) The above-mentioned list of several thousand apple growers who have been furnishing periodic information in response to inquiries relating solely to the apple crop. (2) A voluntary crop reporter in each township who reports monthly to the Bureau on the crops of his neighborhood. (3) A voluntary reporter in each county who also reports monthly for the entire county, basing his reports upon personal observation, interviews, and upon reports from farmers and others, in different parts of the county. (4)A salaried field agent in each state who spends most of his time, during the growing season, traveling over his respective territory and keeping in intimate touch with crop conditions. Each state agent maintains a list of several hundred well-informed men who report to him monthly. It may be seen that the above machinery, which has developed from many years' work in the collection of estimates, is by far the most reliable and impartial means of collecting crop statistics and has furnished the basis for estimating agricultural production, including all fruits and the more specific forecasts on the apple crop. However, this general system of crop reporting is designed more particularly for field crops, grown generally throughout an entire state or

number of states. Commercial fruit crops are highly specialized and their cultivation is concentrated in particular regions. For this reason they do not lend themselves as readily to a general system of crop reporting. Recognizing this fact, the Bureau of Crop Estimates has added to its working force two fruit-crop specialists who will give their entire attention to perfecting a system for estimating the commercial apple crop. Once perfected, this system can be extended to include other fruits.

The fruit specialists will visit important districts and confer with apple growers, dealers, growers' and shippers' organizations, and others interested in the apple industry. Support and co-operation will be enlisted in the work of making reliable forecasts from month to month on the size of the crop and in collecting information on the general conditions throughout the country during the growing season. By this plan it will be possible to carry to those interested in apple yields information regarding not only the entire crop as a whole but also regarding the crop of a particular state or district. It is obvious that such information can scarcely be collected by individuals or by local organizations since it must be impartial and broad in its scope.

The plan in a general way is to have the apple specialists, who are familiar with the industry in different parts of the country, visit periodically the most important apple districts, personally inspecting the growing crops and collecting data on the acreage of trees both bearing and non-bearing. Information is to be secured on the importance of certain varieties, the proportion of the crop sold for fresh-fruit consumption, and whether shipped in barrels, in boxes or in bulk. Co-operative relations are to be established with individual growers and organizations in order that the most complete data may be collected. Large lists of reporters in intimate touch with the industry in all its phases are to be maintained and these aids will report systematically during the growing season. In short, by gradual development it will be possible to work up a uniform system of estimating, which will render the greatest service to the commercial fruit industry.

"Keep Your Eye On the Ball"

By J. F. Sugrue, Cashmere, Washington, at Washington State Horticultural Meeting, North Yakima, January 4, 1917

IN a spirit of optimism, and perchance in a moment of temerity, I allowed your worthy president, Mr. Howard Wright, to induce me to submit a paper for your approval at this our annual meeting. The title chosen was "Keep Your Eye on the Ball." I was induced to choose this title because it sounded euphonious and rolled easily and unctuously off the tongue. Another reason was that in my youthful days I was a fervent devotee of the noble game of football. In Ireland, where I was born, football flourishes in more forms than in most other countries. Over there we play three codes of rules, Rugby, Association and Gaelic. As described by an enthusiast the laws are as follows: In Rugby you kick the ball. In Association you kick the man if you cannot kick the ball, while in Gaelic you kick the ball if you cannot kick the man,—so you see in all three games the ball is an object.

Now let us see where the title of this article can be applied to the fruit game. As in football the ball is of prime importance, so in fruit raising the fruit needs some consideration. Horticulture, the science of raising and caring for trees, is not remunerative unless the product or crop of those trees is matured in such condition as to be marketable at a profit. Much as I dislike to be statistical, I am going to ask your indulgence and introduce a few figures for your consideration. When we engage in any mercantile or manufacturing business, one of the first essentials is to pick out and take notice of the inevitable investment, the overhead expense and the cost of production. Let's do that in our case.

An orchard in full bearing will mean an investment of from $500 to $700 per acre. In many cases we know, to our sorrow, that it means a good deal more than this sum. The average yield of a well-grown and carefully tended orchard may be put at 500 boxes per acre per annum. With money at 8 per cent this shows an overhead expense of 12 cents per box. To convey our fruit to market we have to meet a freight charge of, say, 50 cents per box. Owing to the fact that our orchard investments have been made and are situated at a great distance from the heavily populated consuming districts; this expense is unavoidable and may, indeed must be figured as constant. We now have 50 cents plus 12 cents, which equals 62 cents per box, or $1.86 per barrel. To raise a box of apples and to estimate the exact cost is not easy, but it will run close to 10 cents per box; 50 cents plus 12 cents plus 10 cents equals 72 cents per box, or $2.16 per barrel. We now are confronted by the fact that apples will not harvest themselves, and I am going to arbitrarily fix the cost of this operation at 32½ per box; 50 cents plus 12 cents plus 10 cents plus 32½ cents equals $1.04½ per box, or $3.43½ per barrel. To all these costs we must still add warehousing, selling, insurance and storage. I don't know just what your ideas on these costs are, so I am going to lump them at 14½ cents, making a grand total of 50 cents plus 12 cents plus 10 cents plus 32½ cents plus 14½ cents, or $1.19 per box, $3.57 per barrel, delivered at the other end of the line. We also know, or should know, that our Eastern competitors, who raise apples in greater quantities than we do, can raise, harvest and land in the same centers apples, by the barrel, at from $1.10 to $1.50 per barrel. There can be no doubt that we are faced with some very unmistakable handicaps, and that vigilance and the most rigid suppression of waste is absolutely necessary on our part. In short, to be successful in this business, ability of a higher order is necessary.

We have, to offset this state of affairs, some natural advantages, and it is imperative that we utilize them to the utmost. Here is where the direct application of the title may come in and by substituting the word "fruit" for "ball" we will proceed to illustrate. "Keep Your Eye on the Fruit." We have in the past and can, in the present and future, raise an apple in this Northwest that for flavor, color and keeping quality cannot be surpassed. Are we doing it to the utmost of our ability or are we lying on our oars and living on our past reputation? I am a little uncertain on this point.

Is it or is it not a fact that the percentage of high-grade fruit is falling off, and if it is so, who is to blame? Us or the weather? Is our pruning done as thoroughly as it might be? Is our spraying done as efficiently as possible? Do we cultivate, irrigate, thin, and prop with the same enthusiasm as when the game was new and attractive? I'm afraid we don't. Have we decreased the percentage of undesirable varieties in our orchards to the extent that experience has taught us is necessary, or are we still laboring under the delusion that any old apple will do? Have we fully and finally realized that it is our business to produce at the minimum cost an article of maximum excellence? And that the most efficient form of co-operation we can practice toward our selling agent, no matter who it may be, is that of strengthening his hand by instrusting to him an article that he, in turn, can show without fear of criticism or complaint from the buyer? Have we? Are we upholding the standard of our grades, or are we admitting that as raisers of high-grade fruit we are a failure? I am asking quite a lot of questions, but remember I am here just as much to secure information as to give it. The purpose of my article here, today, is to induce a close analysis of our condition and if possible to rub our heads together and secure satisfactory enlightenment on a subject that I, and, indeed, all of us are deeply interested. In answering these questions, or at least some of them, I am giving you just the result of my own personal observations. I am drawing my conclusions not alone from my own personal experience, but from observation of orchards scattered up and down the Wenatchee Valley.

Taking the questions in bulk, as it were, I would say, "We have not." We are not engaging in horticulture as carefully or as efficiently as the occasion requires. Take spraying. My own experience is that not one man in ten

handles a spray pole properly. The calyx spray means the implanting of a drop, or two drops, of poison liquid in the calyx cup of the blossom. To do this necessitates more than a spraying machine—more than 200 pounds pressure—more than 15 per cent poison in the arsenate of lead—it needs an artist on the spray pole. Artists are not easily found, therefore the only remedy is for the owner or a reliable foreman to closely scrutinize the process of spraying. To implant a drop of liquid in the small aperture available with your head looking over your shoulder, so as to fluently and easily converse with your neighbor, who in turn is doing the same thing, is a very difficult feat to perform. Yet I see them attempt it in droves every spring. Spraying for the calyx means keeping your eye on the fruit. Keeping it anywhere else won't do.

Take irrigating. When we first bought or had wished on us our orchard property, it was a task of joy, a labor of love, to put our hoe or shovel over our shoulder and set out in the cool morning, turning on the taps, or rather opening those dear old wooden buttons and letting the water trickle through the tree rows. It was just one gigantic game of "mud pies," like the children on the sea beach with their little spades and buckets, building sand castles, you know. We went at our work with vim and glee. When we saw an elderly neighbor attempting to make a stream of water run up hill, we would join him and help, and enjoy it. We were not satisfied to turn the water on at the top of the row, we would follow it down to the other end, plugging up worm holes and gopher holes and leading streams of water here and there, seeing to it that every tree got a drink when it needed it. Those were days of real sport. Do we still do it? I fear not. Now, instead of giving the trees a drink when they need it, we give it to them when we feel ready to do so. That's not good. Trees are not like some friends of mine, who want a drink all the time. Trees starve when they go dry and get waterlogged when you over-soak them. Again, I say, "Keep Your Eye on the Fruit."

Thinning. There never was a period in this business when we thinned enough, but I really believe we have made more satisfactory progress in this particular than in any other. Still it is hard to make some of us believe that a thorough thinning means more high-grade apples, more regular crops, more desirable sizes and practically the same tonnage year after year. Don't overlook the thinning, and when you keep your eye on the fruit, in this instance, keep it on the fruit on the tree. Don't mind the fruit on the ground. I've heard a good deal about worm stings this year. Poor thinning is great for worm stings. When your tree is overloaded and two apples are hanging on one spur and you come around with your second and third spray, how do you hope to thoroughly cover your apples with poison? Believe me, if we'll all prune, thin and prop more carefully we'll find worm stings decrease rapidly.

Do I hear anyone say stem punctures? Maybe it was my imagination. A few years ago, if a man picked 60 to 75 boxes a day, at harvest time, it was considered a good day's work. Today I hear growers tell about the man who picks 100 to 150 boxes a day. What's the result? A few years ago, when picking was going on in an orchard and you wanted to find where the crew were working, you put your hands to your mouth and you holloed, "Hey, there!" A voice would answer you out of the stillness, and lo and behold, your picking crew was discovered. Today you can come out on your porch, just place your hand behind your ear and instantly point out the direction in which your crew is. It may be a mile or only one-half a mile, but anyone can tell by the rattle and the banging of the apples in the bucket or the box where the industry is going on. It sounds like a grouse drumming in the woods. The grower sits back and says, "They can't fool me. I know when they are loafing. If I can't hear them I just go out and jack them up." That's where you get your stem punctures. I remember reading in early days how they picked apples in Hood River. They picked them into buckets full of water. I wonder if they do it now. I know they don't up where I come from.

Isn't it a fact that we are beginning to realize that we must confine ourselves to a few varieties that, first, are suitable to the district and, second, are in favor with the consuming public? I think we are. Are we taking sufficiently rapid steps to bring this condition about? I will not attempt an answer on this point. I realize fully the difficulty experienced by individual growers in making up their minds to cut down full-grown trees that at one time were a source of income but are now, in too many instances, a source of expense. However, until that is done we

Continued on page 30

Blast holes for trees and give the roots more pasture

A tree in a blasted bed (at left) roots deeper, grows faster and bears earlier than a tree set in an ordinary dug hole (at right).

"The soil is the pasture in which the roots of the tree feed," says the Wyoming Experiment Station. "Blasting enlarges the root pasture, breaks up the hardpan and subsoil and permits the roots to go down and get plenty of food."

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Washington's New Office of Markets

State Agricultural Experiment Station, Pullman, Washington

PROFITABLE marketing of his produce is one of the most serious problems confronting the American farmer today. In the Northwest this problem is especially difficult owing to the long distance between larger centers of population and regions of production. The State of Washington ranks high in the quality and quantity of its agricultural products, and if adequate markets are available the agricultural prosperity of the state is assured. Mindful of this situation, the 1917 Legislature wisely passed an act creating a state office of farm markets providing for a director of markets and assistants who shall give their time to the investigation, encouragement, development and improvement of marketing conditions in the state. The bill was formulated and introduced by Senator Ralph Metcalf of Tacoma, one of the foremost students of agricultural economics in the West today. Senator Metcalf was one of Washington's representatives on the National Commission on Rural Credit and Co-operative Organization sent to Europe four years ago and he has, during the past two years, made a careful study of marketing departments in the various states of this country, embodying the results of this work in the law recently passed.

The law provides for an investigation of methods of distribution, transportation rates, methods of reducing wastes, costs of marketing, and is designed to assist in every way possible in the improvement of marketing conditions. The maintenance of a market news service is provided for, as is also co-operation with the Office of Markets, U. S. Department of Agriculture, thus bringing to the assistance of the people of the state the full power of the federal and state governments in coping with this important problem.

The law provides for a director of farm marketing appointed by the Director of the State Experiment Station, by and with the approval of the governor. It will, therefore, devolve upon Dr. Ira D. Cardiff, Director of the Experiment Station, to organize the new office of markets and supervise its work. The affiliation of this new office with the Experiment Station will have the result of closely co-ordinating the problems of agricultural production with those of distribution and marketing.

The act carries an appropriation of $15,000 for the biennium, which, while small as compared to such appropriations in other states, nevertheless will allow the state to make a beginning in this line and effectively co-operate with the federal marketing departments and also local marketing organizations. The act is a piece of wise and constructive legislation which will doubtless have far-reaching consequences in the economic development of the state.

Soil Bacteria Needed in Growing Legumes

Oregon farmers having trouble in getting their alfalfa or other legumes to grow are entitled to receive cultures of soil inoculation bacteria at a nominal charge by writing to the Bacteriology Department of the Agricultural College, Corvallis. The cost is 40 cents for cultures for two acres or less, and 60 cents for enough to inoculate from two to fifteen acres. The price includes postage and also full directions for applying the cultures. One week's notice in advance is required in filling orders, especially in the busy seasons. Successful growth of the legumes is impossible without the presence of these organisms, says Professor Beckwith. It is possible to grow them in greater or less degree without bacteria, but not profitably. They will not build up the soil nor produce as they should. If the bacteria are naturally in the soil, no more may be needed. If they are not, they must be supplied by inoculation. These inoculations are advisable for the legumes under the following conditions: If no legumes have been grown within four or five years on the soil to be planted; if no legumes of any kind have grown on the soil at any time. If farmers entertain any doubts as to the need for inoculation they may find it profitable to inoculate experimental plots and check up with the remainder of the field.—Oregon Agricultural College Bulletin.

It Proved Itself

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HUDSON MOTOR CAR COMPANY, DETROIT, MICHIGAN

Powdery Mildew of Apple

The powdery mildew of apple is due to the parasitic fungus, Podosphæra leucotricha, the vegetative body or mycelium of which develops as a coating of minute interlacing whitish filaments on the parts of the plants attacked. The fungus produces two spore stages in its life history: the conidial or summer spores, which are produced throughout the growing season and give to affected parts a whitish, powdery appearance; the ascigerous stage, which gives rise to the ascospores. The latter is produced only upon the twigs, and the bodies bearing the ascospores may be found buried in the dark felted mycelial mass towards the end of the growing season. The conidia serve to spread the fungus during the growing season. It is apparent that the fungus is carried over the winter by mycelium which hibernates in the buds and also by the ascospores. The part which the latter play in the life history of the fungus is somewhat problematical.

The mildew confines its attacks in the main to young shoots and blossom clusters. Both stem and leaves of shoots may be affected and either killed, deformed or reduced in size and vigor. Blossom clusters may be blighted and young fruits may be affected later than at the blossoming period. The mildew is known on the fruits of the pear also. The amount of blighting of blossoms varies in different localities. Secondary infections may occur on mature leaves to a limite dextent.

The control of the disease calls for the employment of two methods, (1) pruning and (2) application of fungicides. In light attacks of mildew it seems probable that pruning alone will suffice, while in orchards where the disease has gained considerable headway spraying must be resorted to in addition to the pruning.

1. Pruning. It is known that infested buds on badly mildewed shoots produce seriously diseased shoots the following spring. Spraying will not prevent these infections, so the affected shoots should be removed and destroyed by burning. This may be done at any time consistent with horticultural practice and if not done earlier should be made a part of the regular dormant pruning operations. If mildew is serious it will be advisable to prune out more brush than ordinary to stimulate the growth the following season. In general, the pruning practice should aim to eliminate close interlacing of branches and vigorous shoots of the current year's growth should be cut back one-third to one-half.

2. Spraying. The time of application of the spray may be given first consideration. It has been demonstrated that winter spraying is without effect on mildew in California. It has not yet been determined whether this holds for Washington conditions or not, but it is probable that such will be the case. The times of spraying to be recommended are as follows: (1) Just after the petals fall. (2) In connection with the second spraying for codling moth or earlier if the mildew is serious. (3) Three or four weeks after the second spraying. It may be necessary to spray a fourth time after a like interval if mildew is serious and conditions continue favorable.

The selection of the fungicide is a matter of considerable importance and should depend in part at least upon what other diseases are present in an orchard. In some sections of Washington powdery mildew is the only fungous disease of the apple that is present, which in others the orchard must be protected from scab also. In case scab is present the regular lime-sulphur treatment (1-30) for this disease should prove of value in the control of mildew. The number of sprayings for scab will vary according to conditions and the severity of the disease. Those most generally recommended are as follows: (1) Just as the blossom buds separate and show pink. (2) Just after the petals fall. (3) Ten days to two weeks later. Experience will show whether the first

only, or all of these applications are necessary. If the mildew is bad additional sprayings may be necessary for this disease alone, and in this case it may be advisable to employ one of the sulphur sprays recommended below. If powdery mildew is the only disease for which prpotection is sought one of the following fungicides may be used:

1. Atomic sulphur or some other finely divided form of sulphur. Atomic sulphur may be used at the rate of 2-6 pounds to each fifty gallons of water. It seems probable that the minimum strength recommended will give as effective protection as the more concentrated solutions.

2. The iron-sulphide mixture. (See U. S. Department of Agriculture Bulletin 120, 15-16, for original method of preparation.) The rather laborious method described in the reference given does not seem to be necessary, at least for the drier sections of Washington. The modified Ballard formula is as follows: Iron sulphate (copperas), 4 pounds; lime-sulphur, 33 deg. Beaume, 1 gallon; water, 200 gallons. A stock solution of the iron sulphate should be made and one pound to the gallon in a convenient strength. Fill the sprayer tank, start the agitator, add the lime-sulphur and slowly add the requisite amount of iron sulphate solution. In order to insure complete precipitation of the iron sulphide a slight excess of lime-sulphur may be used. The necessary insecticides like Blackleaf 40 or lead arsenate may be added to either the atomic sulphur or the iron sulphide mixture.—Bulletin 154, Experiment Station, Pullman, Washington.

BETTER FRUIT

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ADVERTISING RATES ON APPLICATION

Entered as second-class matter December 27, 1906, at the Postoffice at Hood River, Oregon, under Act of Congress of March 3, 1879.

Wilmer Sieg.—Mr. Wilmer Sieg, who has been sales manager for the Hood River Apple Growers' Union and its successor, the Hood River Apple Growers' Association, from 1912 to 1917, tendered his resignation to take effect May 1st, to accept a position with the Earl Fruit Company, one, of the oldest, strongest and largest of the selling organizations in California. Owing to the large business which they have been doing in the Northwest, the Earl Fruit Company incorporated a separate company to look after Northwestern business. At the time when Mr. Sieg took the position as sales manager of the Hood River Apple Growers' Union in 1912 the condition of the Union was critical. The Valley was fraught with strife, due largely to factional contention, and as a result the Valley became split, more self-competition prevailing than ever before. The Union was impaired in strength, which made Mr. Sieg's beginning a most difficult one indeed. Yet out of that chaotic condition he has been a factor in building one of the strongest and largest Associations in the Northwest. Mr. Sieg's accomplishment and success is due to his ability, to his loyalty and to hard work. No man ever worked more faithfully or harder than Mr. Sieg, nor more devotedly. During the busy season he could be found at his office every holiday, every Sunday and every night. Those who knew him best—those who were most intimately associated with him in connection with the work, appreciate his work to the fullest extent. But in addition to this it may be said there is a general feeling of regret over his resignation, and perhaps no man feels his departure more keenly than Mr. Sieg himself. However, on account of the very attractive position offered it is well understood that in justice to himself he could not decline. The success of any selling organization depends principally upon the net returns paid to the grower. The Apple Growers' Association has received significant prices for apples compared with any other district in the world during the last few years, and in as much as the selling end of the business was managed and controlled by Mr. Sieg it goes without saying that he has achieved success. While success in business bespeaks much for a man, especially in the commercial world, there is much outside of business that is equally if not more significant than success in business. Mr. Sieg has accomplished much in addition to his success as a salesman, while a resident of this Valley, and perhaps the greatest compliment after all that could be paid him would be to say he has been known and regarded as a most faithful worker, as a man absolutely loyal to the Association, as a man noted for his generosity, for his kindness and for his liberality.

The Fruit Growers' Agency.—The United States Government knows that the prosperity of the country depends upon the prosperity and success of the farmer. The success of the farmer and fruit grower depends upon his being able to market his pproduct in an economical way at the true market value. Every farmer and fruit grower knows that in the past he has not been able to do this to the fullest extent. The United States Government desires to co-operate with the fruit growers and farmers in helping them solve the problem in marketing in the most economical way and at the same time obtain true market values for their product. The Bureau of Markets have agreed to furnish the Fruit Growers' Agency with all the marketing information obtained through their many representatives pertaining to the fruit industry of the Northwest. In 1916 the Fruit Growers' Agency was incorporated. The first year, as a matter of fact, it could not be expected to be very much more than an experiment. The experiment has been made. Those connected with the Fruit Growers' Agency feel that the way is clear now for them to render an efficient and valuable service to the fruit growing industry of the Northwest. The Government is fully convinced, consequently the Fruit Growers' Agency stands ready to cooperate with the fruit grower, to help the fruit grower, providing the fruit growers will support the Agency. Therefore, in the year 1917 the Fruit Growers' Agency for the first time is really prepared to render a service of value founded on experience, consequently every fruit grower and every shipping concern should support the Agency. Every fruit grower and every shipping concern who wants better prices, who wants to market more economically, who does not feel satisfied with the past has no excuse for not helping the Fruit Growers' Agency, except the matter of expense, which is nominal, as the same will probably not exceed 50 cents per car for the year 1917. The official representatives of the different shipping concerns affiliated with the Fruit Growers' Agency met in Spokane in April. They believe they have reconstructed the Agency and placed it on a practical basis, making it possible during the year 1917 to render a real service of great value to the fruit grower in marketing his fruit more economically and obtaining the real value. It is with regret, on account of limited space, "Better Fruit" is not able to publish a full report of the aims and objects of the Agency—the changes that have been made and the work of the Agency for 1917, but all these particulars can be obtained by addressing the Fruit Growers' Agency, Walla Walla, Washington.

The War.—The President's address, published in this edition of "Better Fruit," in the view of those most able to pass judgment, is well worth reading, and reading carefully. The causes for war have been a matter of discussion for many weeks and months with everybody, especially with the administration and Congress, who of course, as we all know, are much more fully informed than the average individual citizen. No nation in the world loves peace more devotedly than the United States. Whether the United States could have kept out of the war is a subject that seems useless to discuss at the present moment. The administration and Congress are our chosen representatives. The time for argument is past—"My country, may she ever be right, but my country right or wrong," was probably the most patriotic remark that was ever made. Each one must do his share. The work to be done in the rear is equally important with the work at the front. Every one who does not go to war should do his share in his service and work to make it efficient and productive and in the most economical way. Many will be drawn from the field of endeavor to the army and navy, so those who do not go should make extra effort in the way of productiveness as well as in many other ways too numerous to mention, so that everyone engaged in the army and navy, and everyone at home will be fully supplied in a comfortable way with all the necessaries of life, which can only be done properly and economically by everyone doing his share to the fullest extent.

Spraying.—It is unanimously agreed that the profit in growing fruit depends to a large extent upon the high percentage of Extra Fancy and Fancy. This can only be secured by intelligent, thorough and careful spraying with the right materials at the proper time. Those who have not looked into the matter carefully and analyzed their returns, perhaps do not realize how much extra money the high percentage of high grades means on the net returns. The writer had occasion to look over a crop of Newtowns that ran particularly high in grades, and was surprised to find that, although the crop of the district on the average was good for Extra Fancy and Fancy, this particular crop was so good that it netted the grower 12 cents more per box. But it must be admitted that the other fellow's experience is not always quite so good, as you know, therefore the following suggestion: Take this year's

returns on any varieties of apples, figure out what the variety brings you net from the shipping concern for the three grades on the percentages grown. If they are low, or below 50, 30 and 20, just take the figures you have received and figure out how much your crop would have brought you if your crop had been 50 per cent Extra Fancy, 30 per cent Fancy and 20 per cent C grade, and see what the difference would be. The difference will be surprising compared with a crop running 40, 30 and 30, which is grown by many growers, with no small number having poorer percentages than this.

Tying Trees.—Every fruit grower has had experience in propping trees, especially when the crop is very heavy. Propping is usually done late in the summer or early in the fall, which can be supplemented very successfully by tying up, or looping up, with twine, many limbs not large enough to prop, with considerable saving in expense. But growers have found out that at that time of the year, while the work can be done on the exterior of the tree, tying cannot be done in the interior of the tree very conveniently, for in so doing the workman is apt to knock off many apples, consequently quite a few have adopted the method of tying up many of the limbs before they become drooped with the weight of fruit and before the foliage thickens up, for the reason the workman can get into the interior of the tree more comfortably at this time of year, doing the work successfully, and by being careful not to knock off any fruit spurs. Many of the lower limbs, particularly of trees not very old, which are so low they interfere with cultivation, can be tied up at this time of year very successfully, and a crop grown on them, otherwise they would have to be cut off in order to give room for the necessary cultivation in the orchard. An ordinary amount of intelligence and a little practice will teach a man how to do this work very successfully at this season of the year. A visit to some of the neighbor's orchards who have done this work will be found very helpful to the growers.

Mr. Wm. McMurray, General Passenger Agent, Portland, Oregon, for the Union Pacific System, is to be commended for the excellent work he is doing in issuing from the passenger department a very attractive bulletin or folder, descriptive and beautifully illustrative of the scenery of the Northwest, the illustrations featuring some of the finest scenery in Oregon, Washington and Idaho. The bulletin bears the title, "The National Educational Association," being issued for the purpose of interesting everybody in attending the National Educational Association to be held in Portland, Oregon, July 7-14. The opportunities in the Northwest are splendid—the scenery unsurpassed, the climate almost perfect the year round. The Northwest needs people. No method can be more effective in bringing people to the Northwest so they can understand the value of the Northwest than good conventions, which of course must be given wide publicity and advertised to create an interest in attendance.

Get Ready.—The spraying season is near at hand. Every fruit grower should be equipped with a first-class spray rig. If he does not already own one he should buy one. It is mighty good judgment to take time by the forelock and in advance of the rush of the spraying season go over your spray rig carefully, clean it thoroughly, for the purpose of seeing that it is in perfect working condition. Such work done in advance frequently means a saving of much valuable time at the period when a delay in spraying is costly.

Spray Hose.—In 1916, probably on account of the shipments of rubber to the countries at war, many of the reliable companies ran short of material, consequently the fruit grower was compelled to take whatever he could get in the way of hose for spraying. The editor speaks with feeling on this subject, having had to buy several leads of hose of unknown make, the quality being so poor that frequently some of them would last but for a short time. It seems wise to advise the fruit grower to be particular in the selection of his hose, being sure to get some brand that is absolutely reliable, some hose that is known to have sufficient strength and durability to stand the high pressure that is necessary to spray successfully.

The Pacific Coast Association of Nurserymen will hold its annual convention at Tacoma, Washington, July 11-13. The editor has attended a number of these conventions in past years and feels justified in saying they are of vital interest and value, especially to the nurserymen of the Pacific Coast, and also feels justified in saying that it is the duty of every nurseryman on the Pacific Coast to attend the convention at Tacoma. Full particulars can be obtained by addressing Mr. C. A. Tonneson, secretary of the Pacific Coast Nurserymen's Association, Tacoma, Washington.

"Strawberry Growing," by S. W. Fletcher, Professor of Horticulture at the Pennsylvania State College, published by McMillan & Company, is the title of a recent publication, containing much valuable and instructive information about every feature of growing, tillage, planting and harvesting the strawberry.

Apple and Other Fruits In the Argentine Republic

By Robert N. Justo, of the Argentine Republic, a student of the Oregon Agricultural College, Department of Horticulture, under Prof. C. I. Lewis

BUENOS AIRES, the metropolis of southernmost of South American Republics, is a seaport, a river town and the nucleus and terminus of many great railroad systems making a giant spider web on the map of the surrounding territory; it is an excellent collecting and distributing center, and its markets are a ready index to the capacity of the country with which it communicates. From the fertile oasis-like province of Tucuman there drift in at nearly all times of the year small quantities of tropical fruits such as avocados, pineapples and chirimoyas. Boatloads of oranges of varying qualities come down from Paraguay, and they are undoubtedly the cheapest and most plentiful fruits at all times of the year. The true navel orange is brought at times from its original home, Bahia, on the coast of Brazil, by steamers en route from North America or Europe. In the same manner the banana is brought by vessels touching at the great coffee port of Santos in Southern Brazil, where it is grown in the immediate vicinity of the city. Lemons come mostly from Italy, while Spain sends both lemons and oranges. One tropical or sub-tropical fruit now so common in this country, the grapefruit or pomelo, is entirely unknown. The earlier varieties of temperate fruits come from the Banda Oriental, the eastern shore or Republica Oriental, as Uruguay is generally known in Argentina. This is especially true of the strawberry, which is less grown on the western side of the Plata, and of which the few seen in the market are high priced and of poor or medium quality. The bush fruits do not thrive in the warm climate of that region and are all practically unknown. During the summer months the gardens and farms of the vicinity of the capital and of the numerous country towns within a radius of seventy-five miles contribute handsomely to the fruit supply of the market. Peaches, apricots, plums, nectarines, cherries, figs, loquats, medlars, pears, quinces and apples make up the list that comes from that neighborhood. The islands of the lower Parana, one of the greatest rivers that go to form the Plata, near the populous summer resort of the Tigre, constitute the richest fruit-growing region near the City of Buenos Aires. Mendoza, situated 800 miles inland at the base of the Andes, constitutes another big factor in supplying markets of the capital. Among imported temperate fruits one sees in season beautiful specimens of Angouleme pears from France, or summer apples from both France and Portugal, grapes and boxed Mazzard cherries from the Iberian peninsula, and apples from Uruguay, Chile, New Zealand and last, but not least important, both apples and pears from the United States.

Grapes and peaches are the cheapest and most plentiful of the Argentine-grown fruits. Better table grapes of the vinifera varieties can be bought in Buenos Aires than are to be found in the cities of Eastern United States. They are all shipped from the rich irrigated wine-producing region of Mendoza. The best varieties retail at about seven cents per pound in Buenos Aires, but are nearly given away in their place of production. They constitute a sort of side line to the wine industry, but still have yielded enormous profits to some growers. The production of wine alone amounts to about one million gallons annually, or about twice that of California or Chile. In this industry enormous sums have been made until very recently, but it is only fair to say to those that might be interested that the industry at the present time is going through a crisis, due principally to overproduction of cheap wines. The prices for grapes delivered at the wine press, posted for the season of 1915, were about one-half to one cent per pound, respectively, for Mendoza and the newer region of Rio Negro in the south. The growing of the Labrusca type of grape of our Eastern States is carried on to some extent also in Eastern Argentina, where the moister climate is not suited for the growing of the "vinifera" varieties, but there also the larger part of the product is employed in the making of wine. The experiment of placing some of the best shipping varieties of table grapes from Mendoza in the markets of New York has been successfully tried. As the seasons in Mendoza and California are the reverse of one another this feat would work both ways, enabling the California grower and commission merchant to ship to Argentina in the same manner as the Spaniards already ship the common Malaga grape to all parts of South America. In the same manner also a better quality of Mazzard cherry could be shipped from our Pacific States than what now comes from Europe. Peaches come from the frost-free lands on the Islands of Parana near Tigre from Mendoza and San Juan and from the many orchards

and gardens existing near the City of Buenos Aires on the cultivated prairie land of the neighboring towns. In both Tigre and Mendoza there are large canneries. The majority of the named varieties of peaches are of European origin, although there are varieties from the United States, especially among the early-ripening kinds. It is in connection with the gathering, packing and picking of peaches that some of the marketing methods in vogue in Argentina can be best observed. Many growers, especially those of Mendoza, do their own gathering and packing, and ship direct to the canneries or commission men, but in the neighborhood of Buenos Aires, the commission men send out agents, who buy up the crops before ripening them, during the season, about January to March, inclusive, send out a foreman, who lives on the place during that time, engages a few peons and attends to all picking, packing and shipping.

The absence of suitable materials for the manufacture of boxes and crates has given rise to the use of peculiar receptacles and packing methods. The basket willow is easily and cheaply grown in the Islands of Parana and other low and moist lands in Eastern Argentina, and packers and shippers are unanimous in proclaiming the wicker basket far superior to any kind of crate. The price of a double basket is about fifty cents and is returned when empty and used again for three or four years. Railroads give reduced rates on fruits, usually half of the rate on general merchandise, or as low as one-fifth of the usual tariff, returning the empty baskets either at the same reduced rate or entirely free.

One fruit largely produced in Argentina of which all South Americans seem very fond, but which naturally is not much found in the market in the fresh state, is the quince. It is remarkable how well it is adapted to the soil and climate; apparently little effort is required to grow it. Especially is that true in the Islands of Tigre, where the quince has evidently found remarkably favorable conditions for growth, having escaped from cultivation in many places, and are able to battle successfully with the native vegetation and yielding large quantities of fruit. It has done the same on the Islands of the lower Rio Negro in the desert country around Viedma, where the roots find plenty of water near the river banks. The favorite and ever-present dessert on all South American tables consists of cheese and a thick, stiff marmalade, both of which are cut and served in the same manner, and usually without the addition of bread and pastry. This marmalade, put up in flat tins of convenient sizes and made from quince, is known in the Spanish-speaking countries as "dulce de membrillo," or sweet of quince, and in Brazil as marmelade, from marmelo, meaning quince, although there the guaibade, made from guavas, is far more common and popular.

In no part of Latin America has the sale of fresh fruit as an industry attained the development that it has in

the United States, for instance. In Argentina this may be ascribed in part to the fact that the older and more settled parts of the country are not very well suited for fruit growing. The prairies of the eastern and best-known parts of the Republic are exposed alternately to extremes of drought and flood. The drainage, on account of the flatness of the country, is poor, and the region is also subject to late frosts. To Chile, which is a second California in climate and other factors conducive to the growing of good fruit, and where fruit which has mostly been in a haphazard sort of way is both abundant and cheap, such an argument would not apply. The lack of development in commercial fruit growing can be, in part, ascribed to the same conditions for which the general lagging of industrial development in South America is responsible in part to the general belief, in the tropical countries especially, that the eating of large quantities of raw fruits is injurious and might bring on malaria or dysentery, and in part perhaps to the Latin America preference and habit of taking fruit juices in the form of wine particularly, to which are to be ascribed the enormous wine industry of both Argentina and Chile. The enormous and well-organized industry of banana growing of Colombia and Central America, constitutes an exception to what has just been said, but it is really conducted by and for the benefit of Northern people. There are more, better and usually cheaper bananas to be had in any American city than in the average South American place. Often one never sees either the quality, quantity or wealth of varieties encountered in any of the large American cities. One of the first things noticed by the passenger from a South American port is the wealth, frequency and attractiveness of fruits displayed in the American cities. In Buenos Aires, except for its excellent public markets, numerously and conveniently located, but still quite far apart on account of the great size of the city, and except for an occasional street vendor with wagon, cart or basket, it is difficult to find fruit for sale; on Sundays it is impossible, except with meals at hotels or restaurants, to obtain it at all. Reviewing the fruits seen in the city markets it might be said that the orange from September to December, the peach from New Year to April, and the grape from January to May, easily take first rank in the Argentine capital among the fruits, but their position is now threatened by the apple and, above all, by the American apple.

During the summer of the southern hemisphere the American apple season is at its height in Buenos Aires. The first apples of the season encountered were some Gravensteins, encountered during the month of September, in a small town in the interior of one of the southernmost territories of the Republic. They sold for the reasonable price of one peso (forty-two cents) per dozen, and had come some 11,000 miles all the way from Sonoma County, California. During the season of 1914 and 1915, the apples most prominent in the capital were Rome, King, Spitzenberg, Stayman, Jonathan and Delicious. There were a few boxes of "Oregon Beauty"

and some splendid specimens of Winter Banana. By March the New Zealand product began to appear, and by June was more plentiful than the American. The small dealer buys apples at from five to seven dollars per box and retails the fruit at from seventy-five cents to two and a half dollars per dozen. A fair idea of the prices may be gained by taking a box containing eighty apples; for this the dealer would have to pay to the importer five dollars, selling the same again at one dollar per dozen. The market was flooded with Delicious last season, althought it still, with the variety Winter Banana, sold somewhat higher than other varieties. Delicious, running fifty-six to the box, retailed at $1.75 per dozen, and some Banana of equal sizes at $2.50. On the better varieties the dealer makes about fifty per cent. A large department store situated on Buenos Aires' fashionable shopping street often made a special feature with a very attractive window exhibit of American boxed apples at somewhat reduced price. It is both remarkable and curious what a hold the word California has upon the outside world. It is known to practically every Italian and Spanish immigrant with whom one comes in contact, parties who usually also have heard of New York and Chicago, but to whom such names as Kansas or Pennsylvania would be as from an ancient classic. The exhibits of apples were nearly always labeled "Manzanas de California" and at times as "Manzanas del Canada" or "del Oregon," although every single one of them and nearly every other box of American apples encountered in Buenos Aires came from the Wenatchee Valley, Washington. The same can be said of the source of pears seen there, among which were such varieties as Onendaga, Anjou and Flemish Beauty. Barreled apples from the Eastern States and Nova Scotia, represented almost entirely by the variety Ben Davis, were consumed in the capital more for culinary purposes and much shipped to the interior towns. They were the apples generally found in the dining cars of the railroads. In the month of March the first of the fall apples of the southern hemisphere commenced to come into their own.

Among the fruits coming from New Zealand are such varieties as Worcester Permain, Cleopatra, Monroes' Favorite, Glory of South, Jonathan and Commerce; there are unlabeled varieties from Chile; and then the home product, none of which compared in flavor and attractiveness with those imported from the Wenatchee Valley. Below is a table of the apples imported into the Argentina Republic for the last three years, or ever since apples have been listed separately from other fruits. The figures are in Argentine gold, for practical purposes and round numbers the same as the United States currency:

1912	1913	1914
$96,794	$208,371	$198,433
15,562	52,944	80,577

The first row of figures gives the values of the total imports and the second those from the United States alone. While there is a slight falling off in the total imports of 1914 as compared with 1913, due undoubtedly to the business depression existing at that time, it will be seen that during the same period the imports of apples from the United States and from New Zealand was from the 1914 only $4,798, while that of the imports from the Republic of Uruguay was $91,920. These statistics go to show that not only the consumption of apples is on the increase in Argentina, and this would apply in varying degrees to all South American countries, but that the taste for a better class of this fruit has been created and is developing faster even than the rapidly-growing population. The outlook in the trade in high-grade boxed product of North America is, therefore, especially bright, to say nothing of the creation of a demand for and the development of a trade in other higher grade fruits such as the pomelos, grapes, Mazzard cherries and other stone fruits. In seeking to develop the trade in fruit with Argentina or other parts of South America it must always be borne in mind that the seasons in that continent are the reverse of what they are here, in that the fruits in season here are out of season there, allowing the fruit exporters to ship to Buenos Aires the same manner, for instance, as South Africa already ships to London and New York. In the apple trade North America will probably never seriously have to fear any competitor. Europe is already an importer on a large scale, and in New Zealand and South America, even should it ever be possible to grow and market a better quality of apples there than at present, the shipping season of apples only in part overlaps that of North America. And this brings us to the planting and growing of apples in that part of the world.

The apple is little grown in Argentina at the present time. The mountains of Cordoba, lying about the same latitude south as does New Orleans in the North, and about 400 miles due northwest by a straight line from Buenos Aires, in the interior of the country, once produced large quantities of apples said to have been of good quality. The region is sub-tropical in its location and only the high altitude with its resulting low temperatures could have made apple growing possible, but at the present time the apple has practically disappeared from the Cordoba Mountains. In the islands near Tigre, and about an hour's ride by train from Buenos Aires, where the almost sub-tropical climate would be considered most unfavorable for the growth of the apple, the apple is still largely grown at present. The inundations caused largely by the meeting of the waters of the river and tides and the isolation of the orchards probably do much to prevent the development and spread of the woolly aphis, a pest which has attacked nearly every apple tree in the Republic and

which is undoubtedly responsible for the extermination of the apple from Cordoba. The variety most seen in the markets is a medium sized somewhat flattened green apple with brown blotches bearing the descriptive name of "cara sucia" or "dirty face." It seems to be also the variety imported so largely from Uruguay and is evidently a good keeper, as it is found on sale as late as November, equivalent to May in this country.

Argentine fruitgrowers and nurserymen have not been oblivious to what is going on in their line in other parts of the world. A hasty look into any Argentine nursery catalog or a look into any private collection may easily prove this. There are several large and many small nurseries owned and worked principally by Italians or their descedants, using generally the same stock as do well there. Many American varieties are already listed, but they are obtained for the most part indirectly via Italy and France, countries which already supply the majority of the varieties handled by them.

There is a regular agency for New Zealand trees in Buenos Aires, where the stock is gaining in favor over that imported from Europe or North America, as the identity of seasons does away with so many difficulties in transplanting. Chilean nurseries are often patronized for the same reason, and on account of their proximity. New Zealand trees sell at one dollar apiece in large or small quantities. The government is doing something to help promote the wider planting of fruit trees. Aside from a big school, with station in viticulture in Mendoza, other agricultural schools, such as those of San Juan and Cordoba, have a horticultural department giving special attention to instruction in fruit growing. Unfortunately the tendency in some of these places with European instructors is to give undue attention to the espalier type of training and pruning, so much in vogue in the thickly-settled parts of Western Europe, and which has no practical application in a new and sparsely-settled country. The section of markets of co-operative action has been established among fruitgrowers, with the object of eliminating the middleman. A few years ago the Argentine Department of Agriculture imported a large consignment of nursery stock, containing nearly a hundred varieties, from a firm in the United States. In this shipment there were thirty kinds of apples alone, which were all saved in spite of having arrived in midsummer under very trying conditions for the plants. And in connection with this it may be well to advise those wishing to export nursery stock to the extreme south to dig only well matured in the fall or early spring; keep in cold storage, according to whether the plants are destined for the warmer or colder latitudes, allowing thus about a month for the voyage and the arrival of the shipment in the fall of the southern hemisphere.

A word in regard to the growing of the apple, now the most neglected and soon perhaps to be the most popular fruit among consumers of the apple in the Argentine Republic. A table giving the essential climatic conditions of the centrally located point of the Valley of Rio Negro in comparison with a few of the successfully irrigated regions of the west might have great influence upon those who might think of growing apples in a country where no home-grown product exists to supply the demand of the season:

	Wenatchee, Washington	North Yakima, Washington	Rogue River Valley, Oregon	Cipolletti, Rio Negro Valley
Altitude	1,164 feet	1,000 feet	956 feet	871 feet
Rainfall	14.33 inches	8.67 inches	32.20 inches	5.30 inches
Lowest temperature observed	—16 Jan.	—20 Jan.	0 Jan.	10 July
Highest temperature observed	101 July	108 July	110 July	106 Jan.
Mean temperature	48 deg.	50 deg.	53 deg.	58 deg.
First frost observed	Oct. 1	Sept. 6	Sept. 11	Mar. 15
Last frost observed	May 21	June 14	June 13	Nov. 5
Average date of first frost	Oct. 21	Sept. 21	Oct. 12	Apr. 7
Average date of last frost	Apr. 30	May 23	May 6	Oct. 4

There is undoubtedly a future for the production of apples in all that part of Argentina south of the Rio Colorado, or which used to be known as Patagonia, wherever water is available for irrigation and wherever communication with

Buenos Aires is possible. By the time orchards could come into bearing some of the railroads would probably have been extended to tap the almost inexhaustible timber regions of Southern Chile, not far distant, and thus have opened up a supply of material suitable for the making of boxes and barrels. Just to the west of Rio Negro, in the territory of Newqueen, where there are many fertile valleys suitable for cultivation, wild apple trees have been known to be growing throughout a large district, bearing large quantities of good fruit as far back as over a hundred years ago.

Although no American varieties are known to be bearing in the region at the present time, nevertheless judging from the data given by the climatic table, from the remarkable spread and thriftiness of the wild apples found there, and further from the appearance and behavior of both apple and pear trees in the Rio Negro Valley, one is led to conclude that the great market varieties of the Western States will succeed there. These would then find a ready market at high prices in Buenos Aires and other towns of the Republic, and even in Uruguay and South Brazil, not competing with but following apples of the same grade now imported from the United States.

Bees Help Fruitgrowers

Did you have a full apple crop last year? Failure of some varieties of apples may be due to lack of pollination. T. J. Talbert, of the College of Agriculture, told Farmers' Week visitors at the University of Missouri recently how bees helped to make a fruit crop. Many varieties of apples like Arkansas Black, Jonathan and York Imperial are self-sterile and cross-pollination is absolutely essential if a set of fruit is obtained. Other varieties like Ben Davis, Yellow Transparent and Willow Twig are only partly self-fertile and again cross-pollination is necessary. The numerous white showy flower clusters act as a guide to the insects and may attract them far away. When a bee alights on a flower its hairy body may be covered with pollen from another variety of apple. As the bee works its way down to the bottom of the flower to get the nectar it rubs its dusty body against the stigma or female organ of the flower and cross-pollination is accomplished.

It is a well-known fact among the best fruitgrowers that the weather conditions during fruit bloom has much to do with the setting of the fruit. If the weather is clear and warm at blooming time the bees are active and cross-pollination proceeds rapidly, while if the weather conditions are wet, cloudy and cold the insects are not active and usually a poor set of fruit is secured. Strong, cold winds may often prevent the bees from cross-pollinating one side of the apple trees, and this may account for the set of fruit on only one side of the trees. Actual counts and observations at blooming time have shown that the honey bee is decidedly the most important insect in the work of pollinating the fruit flowers. Many counts have shown that from seventy-five to ninety per cent of the insects pollinating the blossoms were honey bees.

The wind cannot be relied upon as an agency to transfer pollen from apple tree to apple tree throughout the orchard. This work must be accom-

plished by insects, and the honey bee is by odds the most important of them all. Bees will pay for their keep in honey, aside from their services in fruit production.—Bulletin, University of Missouri.

Canning Fruit Without Sugar

High cost of sugar at the present time is causing considerable worry among the housewives who desire to do their accustomed canning of fruit. With the view to meeting this problem the State Experiment Station at Pullman, Washington, issued a bulletin on "Canning Without Sugar." There is a common notion among housewives that to do canning effectively, a considerable amount of sugar is necessary.

Dr. J. S. Caldwell, author of the above-mentioned bulletin, calls attention to the fact that practically all fruits may be canned without the use of sugar. Such fruit preserves more of the natural appearance and flavor than does the fruit put up in heavy sugar syrup; is fully as palatable and much more easily digested; is in better condition for use in cooking, and is available for all purposes for which fruit canned in syrup could be used. The bulletin points out that while heavy sugar syrup aids in a slight degree in preventing growth of the yeast and bacteria which caused spoilage, perfect sterilization makes the use of sugar unnecessary.

The bulletin gives detailed directions for canning without sugar by the "Cold-Pack Method" and by the "Open-Kettle Method." Attention is also called to methods of canning in tin cans, together with recipes for canning with the use of sugar for those whose purses will permit of this method at the present time. A number of valuable suggestions are made in regard to the handling of fruits, containers, etc., with a view to economizing labor and insuring a better preservation of fruit. The bulletin may be obtained upon application to the Experiment Station.—Washington Agricultural College Bulletin.

Don't Summer Prune Raspberries

The raspberry plant finds an especially favorable climate in most of the State of Washington. The crops produced are usually far above the average for the United States. The plants are extremely vigorous and productive and the quality of fruit produced is the best.

The practice of summer pruning followed in the Eastern States does not seem to be well adapted to this plant when grown in the Northwest. The vines grow tall, often reaching a height of seven to nine feet, and if cut back in the early summer will branch and send out good strong limbs. If pruned a little later in the summer the tendency is to cause the vines to winter kill and suffer to such an extent that the crop is greatly lessened the following year.

Tests along this line at the State College of Washington indicate that the best returns will be obtained by giving thorough, clean cultivation and doing

all of the pruning in the winter time. All of the summer pruning done has resulted in injury to the plants. Some growers report fair success with summer pruning, but the general indications are that summer pruning will result in injury to the plants, while in a very few cases it resulted in a definite benefit to the plants or to the crop produced.

Where summer pruning is done the best system is to cut off the top bud when the vines reach the height desired. This will cause them to send out lateral branches. If the work is done early enough and the latter part of the season is dry enough, the side branches will mature and suffer very little from winter injury, but if the work is not done early and the land dried sufficiently to stop growth, winter injury will result. Some patches have been practically killed by the late summer pruning.—O. M. Morris, Horticulturist, Experiment Station, Pullman, Washington.

On Apple Eating.

Do you know what you are eating when you eat an apple? You are eating gallic acid, one of the most necessary elements in human economy. You are eating sugar in the most assimilable form, combined carbon, hydrogan and oxygen caught and imprisoned from the sunshine. You are eating a gum allied to the "fragrant medicinal gums of Araby." And you are eating phosphorus in the only form in which it is available as the source of all brain and nerve energy. In addition to all these, you are drinking the purest of water and eating the most healthful and desirable fiber for the required "roughness" in food elements. The acids of apple diminish the icidity of the stomach and prevent and cure dyspepsia. They drive out the obnoxious matters that cause skin eruptions and thus are nature's most glorious complexion makers. They neutralize in the blood the deleterious elements that poison the brain and make it sluggish. The contained phosphorus is not only greater than in any other form of food, but it is presented in a shape for immediate use by the brain and nerves, where it may flash into great thoughts and great deeds. The ancients assigned the apple as the food for the gods, and its juices the ambrosial nectar to which they resorted to renew their youth. Men are the gods of today, and the apple is their royal food, the magic renewer of youth. Eat a rich ripe apple every day and you have disarmed all diseases of half their terror.—Exchange.

Flag Etiquette.

1. The proper time for raising the flag is sunrise or after, never before. 2. The flag must be lowered at sunset. 3. In draping the flag against the side of a room or building, the proper position for the blue field is toward the north or toward the east. It is a mark of disrespect to allow the flag to fly throughout the night. There is no uniform usage in the display of bunting, but it is just as easy to hang it in the correct fashion. When buildings are decorated in bunting draped horizontally, the red should be at the top, according to a letter from the War Department published in the New York Sun:

"There are no regulations prescribing the method of utilizing bunting for decorative purposes, but good taste requires that the order shall be, red at the top, followed by white, then blue, in accordance with the heraldic colors of the national flag."

A city lad from the densest tenement district was taken to the country by a farmer. A few days later he was called early one freezing cold morning before dawn to harness a mule. The lad was too lazy to light a lantern, and in the dark he didn't notice that one of the cows was in the stable with the mule. The farmer, impatient at the long delay, shouted from the house: "Billy! Billy! What are you doing?" "I can't get the collar over the mule's head," yelled back the boy. "His ears are frozen."

The town council of a small Scotch community met to inspect a site for a new hall. They assembled at a chapel, and as it was a warm day a member suggested that they should leave their coats there. "Someone can stay behind and watch them," suggested another. "What for?" demanded a third. "If we are a'gangin' oot t'hgether, whit need is there far any o' us tae watch th' clothes?"

A Note to Legume Growers

State Agricultural Experiment Station, Pullman, Washington

EXPERIENCE in the growing of leguminous crops,—peas, alfalfa, vetch, clover, etc., shows that these crops make far better returns when the soil contains the bacteria which cause nodule formation upon the roots of the plants. These bacteria living in the nodules take the free nitrogen from the air, which as such cannot be assimilated by the plants, and combine it into such a form that it can be utilized. In this way, nitrogen, which is so essential for crop production, and yet is so expensive to purchase in the form of fertilizer, is obtained in very appreciable quantities from the air without cost.

Progressive farmers are beginning to realize the importance of these facts. It is well worth while to see to it that the land upon which these crops are to be grown contains these bacteria, and unless these crops have been grown successfully, soil inoculation should always be practiced. This may be done in several ways. One method is to take the soil from fields where the particular legumes have been successfully grown and to distribute it over the field to be treated. If this method is used the soil should be worked in immediately since if exposed to the sun the bacteria will be weakened. Owing to the fact that weed seeds and various plant diseases are readily spread in this way, this method should be practiced with caution. By far the best way to get the desired results is by the use of pure cultures.

There are to be had upon the market various commercial products which are advertised to contain the nodule-form-

ing bacteria, but the use of these preparations is frequently unsatisfactory, for the reason that the bacteria are often no longer living, or at least are not vigorous enough to bring about the desired effect. To meet the needs of Washington farmers, in this respect, the Experiment Station had undertaken to supply them with pure cultures of the legume bacteria in such a condition as to assure the maximum results.

The preparation and shipment of these cultures is carired on by the Division of Bacteriology. The organisms are cultivated in the bacteriological laboratories upon suitable nutrient substances, and when ready for shipment are transferred to cans of sterile sand. In this form the cultures reach the farmer. All that is necessary for use is to mix the moist sand with the seed and to sow in the usual manner. By this method both the seed and the soil are inoculated. Since sunlight soon kills the bacteria they should not be exposed any longer than necessary while the seed is being sown.

In order that the Experiment Station may render its best service to the farmers, and in order that farmers may experience a minimum of difficulty in obtaining cultures, and at the same time information and advice upon matters pertaining to crops, the Bacteriology and Agronomy Divisions co-operate in the matter, and the cultures may be obtained by application to the agronomist. The charge is 25 cents for each acre treated, this amount merely covering the cost of preparation.

It is very essential that cultures used be fresh, and for this reason it is necessary that they be freshly prepared in each individual case. This means that orders must be submitted as early as possible and should reach the Experiment Station at least two weeks before the cultures are needed for use. The approximate date of sowing should be designated in each order. This co-operation on the part of the farmers will be repaid by more prompt service, and with more satisfactory results in the field.

Timely Hints for Home Gardener

Garden peas are a favorite crop in the home garden, and as they are not easily injured by light frosts they may be planted as soon as the soil can be put in order in the spring, according to the specialists of the United States Department of Agriculture. By selecting a number of varieties it is possible to have a continuous supply of peas throughout a large portion of the growing season. In order to accomplish this plantings should be made every ten days or two weeks until warm weather comes. The first plantings should be of small-growing, quick-maturing varieties, such as Alaska, First and Best, and Gradus. These kinds do not require supports. They should be followed by the large wrinkled type of peas, such as Champion of England, Telephone and Prize Taker. These may be supported on brush, on strings attached to stakes driven in the ground, or on wire netting.

Peas should be planted about two to three inches deep in rows three to four feet apart. Some gardeners, however, follow the practice of planting in double rows six inches apart, with the ordinary space of three to four feet between these pairs of rows. With varieties requiring support this is a good practice, as the supports can be placed in the narrow space between the rows.

Beans are more susceptible to cold than peas and should not be planted until danger of frost is past and the ground begins to warm up. They are, however, among the most desirable vegetables that the home gardener can raise. There are many different kinds and varieties of beans, but for garden purposes they may be divided into two classes—string and lima. Both classes are grown commercially over the greater part of the East and adapt themselves to a wide diversity of soils and climate. They grow rapidly and, therefore, leave the area in which they have been planted free for another crop. To secure a continuous supply it is desirable to make plantings at intervals of ten days or two weeks from the time that the ground is reasonably warm until hot weather sets in.

Both string and lima beans are subdivided into pole and bush types. The pole lima bean should be planted with from eight to ten seeds in the hill and after the plants become established should be thined to three or four. The

hills should be four or five feet apert. Bush lima beans are planted five or six inches apart in rows thirty to thirty-six inches apart. Bush beans of the string type may be planted somewhat closer—the plants standing three or four inches apart in rows from twenty to twenty-four inches apart if hand cultivation only is to be employed. Beans of any kind should not be planted any deeper than is necessary to secure good germination. This should never be over two inches and on heavy soil it should not be more than one and one-quarter to one and one-half inches.

Beets can be planted comparatively early in the season. It is not necessary to wait until the ground has become warm, if the danger of frost is past. The seed should be sown in drills fourteen to eighteen inches apart and covered to a depth of about one inch. As soon as the plants are well up they should be thinned to stand three to four inches apart. From two to three plantings should be made in order to have a continuous supply of young, tender beets.—Office of Information, U. S. Department of Agriculture.

Preparing the Garden Soil

A simple test to determine when garden soil is ready for plowing or working is to take a handful of earth from the surface and close the fingers tightly on it. If the earth compacted in this way is dry enough for cultivation it will fall apart when the hand is opened. This test is applicable only to comparatively heavy soils, but it is these which receive the most injury if they are worked when wet. On such soils overzealous gardeners not only waste their time, but frequently do actual damage by attempting to work them too early.

After plowing or working with a spade, it is usually desirable to apply some form of fertilizer. Barnyard or stable manure, which furnishes both plant food and humus, is undoubtedly the best, and applications of from twenty to thirty tons to the acre are satisfactory. The manure should be distributed evenly over the surface and later worked in with a hoe and rake. Frequently it is advisable also to apply commercial fertilizer, especially phosphate. An application of 300 to 600 pounds of acid phosphate to the acre is usually sufficient. In order to supply potash, if this is needed, unleached wood ashes may be distributed over the garden at the rate of 1,000 pounds to the acre. Wet or leached ashes have less fertilizer value. Two thousand pounds of these should be used. In order to start the plants early in the spring applications of 100 pounds to the acre of nitrate of soda are sometimes used. It is important, however, to remember that no form of commercial fertilizer will yield good results unless the soil is well supplied with humus. This frequently may be furnished in the form of sod or other vegetation which has overgrown a garden spot and may be turned under with a plow or spade.

In certain localities it is also advisable to test the soil for acidity. Natur-

ally moist soils are likely to be sour and in such a condition are not likely to produce the most satisfactory crops. The test for acidity or sourness is a very simple one. A handful of the soil slightly moistened and a piece of blue litmus paper, which can be obtained from any drug store, are all that is necessary. When placed on sour soil the paper will turn red. To correct such a condition lime should be used. The ground should be covered with a thin coat of air-slaked lime and the latter worked in well. Lime is not a plant food, but it will correct the acidity and improve the physical condition of the soil.—Office of Information, U. S. Department of Agriculture.

How to Mix Bordeaux Mixture

Standard Fungicide May Easily Made With Attention to Certain Details

Bordeaux mixture, the standard fungicide for use in controlling disease on plants, may be easily made by a little attention to a few important details. The standard mixture, known as the "4-4-50" formula, is composed of the following ingredients: Bluestone (copper sulphate), 4 pounds; lime (unslaked), 4 pounds; water, 50 gallons.

The method of making is as follows: Dissolve the bluestem by suspending in a sack in water, and dilute to 25 gallons. Slake the lime, being sure to use only the fresh stone, to an even paste with a small amount of water to start, and when slaked, add sufficient to make 25 gallons. Mix these dilute solutions by pouring together slowly into the spray tank or barrel, through a 20-mesh strainer made of brass wire. Stir well. In large operations it is best to prepare stock solutions of both bluestone and lime. The bluestone may be dissolved at the rate of one pound per gallon of water. The lime may also be slaked at the same rate, one pound to the gallon, being careful to make up water lost by evaporation before using, if kept for any length of time. Stir the mixtures well before using to insure getting one pound of the material to the gallon. By using stock solutions, one man may easily keep three or four power spray outfits supplied with the bordeaux mixture. An elevated platform upon which the mixing may be done will save a great deal of time. As little hand labor as possible should be the rule, and all that should be necessary in a well-appointed mixing plant should be simply opening and closing valves or gates. A scale to weigh the materials used is a necessary part of the equipment.

If the lime happens to be a grade low in calcium, five pounds may be necessary instead of four. Bordeaux mixture should be used fresh.

A combined insecticide and fungicide may be made by adding to this 50 gallons the proper amount of some stomach poison such as arsenate of lead, with no deterioration in the effectiveness of either the bordeaux mixture or the poison.—J. J. Gardner, Colorado Agricultural College, Fort Collins, Colorado.

"Keep Your Eye On the Ball"

Continued from page 8

are neglecting an opportunity to remove one of our handicaps. Unprofitable varieties exist and they must be eliminated. No up-to-date dairyman keeps a cow that does not grade up well in either gallonage or butter fat. What we need in this business is butter fat or quality, rather than gallonage or quantity.

I know it is much easier to criticise than it is to perform, and I also know that sometimes critics become a condemned nuisance. I don't want to come under that head. I want and intend my criticism to be of the useful and helpful variety. What I do most want to do, though, is to call to your attention the fact that our business labors under two distinct classifications of handicaps, — one unavoidable — as initial cost of our land, freight charges, distance from markets and high cost of selling. These are, unhappily, fixed. Avoidable—pests, amount of production, quality of production, damage from careless handling, waste of culls, poor grading and packing and thereby loss of reputation and good standing in the markets of the world. These are not fixed. They are variable, and depend for their increase or decrease on our own individual shiftlessness or carefulness. It is up to us as growers to put our best efforts forth to remedy any failings that we may discover at the growing end.

I have had my ear pretty close to the ground for several years past. For every argument I hear on spraying or orchard culture, I hear a dozen on high rates of interest, taxes and freight rates. They are both weighty matters and of great and grave importance, but we can remedy one of and by our own direction, and the other is a slow and tortuous operation. When I first was introduced into the apple game every village had a branch of this, our society, monthly meetings were held, orchard practice was discussed, experiences were exchanged and the product of our orchard showed the result. Now the local branch of the Washington Horticultural Society active is as extinct as the "dodo" bird. If prohibition ever becomes as acutely operative as has the suppression of orchard lore, then this will be a dry, dry world. There are leaks in our business that must be stopped. No leaky ship can carry a dry cargo, and our ship leaks. It is up to us as growers to uphold the standard of our grades and to so utilize and fertilize our land as to produce both quantity and quality to put in those grades. It's not the label on the box that gets the money, it's the contents; so again I say, "Keep Your Eye on the Fruit."

The United States Weather Bureau during the crop seasons furnishes special weather warning services and information to growers of corn, wheat, rice, sugar, tobacco, alfalfa, apples, pears, peaches, grapes and cranberries.